

Mixed Methods

Combining Quantitative and Qualitative
Methods and Data Sources in PSIA

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Why are maternal deaths among tribal women so high?

80% of Adivasi women deliver their babies at home, versus 60% of all Indian women.

High maternal mortality among tribal women in India

Why?

(One of the reasons)

80% of tribal women deliver their babies at home instead of clinics

Why?

(Most common reason)

They don't think it necessary 72%

(One of the reasons)

They are not treated with dignity

Why?

No female provider 1%

They do not trust facility 2%

Facility not open 5%

Husband, family do not allow 5%

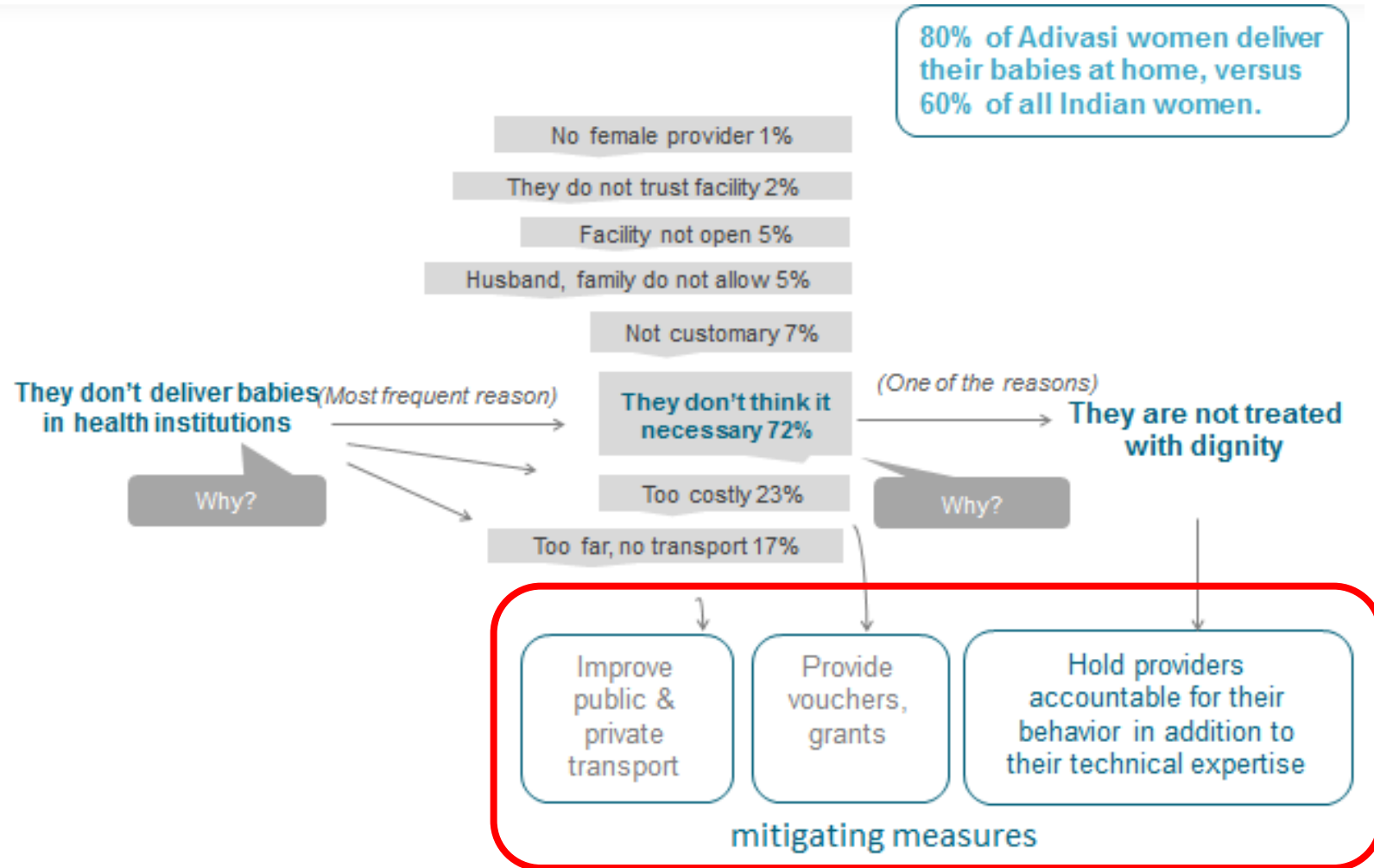
Not customary 7%

Too costly 23%

Too far, no transport 17%

Underlying the proximate reasons for poor outcomes can be complex phenomena not immediately visible

Implications on program design



Mixed methods in poverty and social impact analysis

- It is not uncommon for traditional methods of inquiry and data to fall short when studying complex and multifaceted problems
 - Many reforms take place simultaneously, at macro and micro levels, with gestation periods.
 - “Impact” can take many forms, some may not be directly observable, others not measured precisely.
- It is possible for policies to have poor design and weak impacts, if the complexity of the problem is not properly diagnosed
 - Reforms might focus on non-priority areas, offer partial solutions, neglect deeper roots of observed problems.

Outline

- Key questions:

- What is mixed methods?
- Why is mixed methods useful for PSIA-type analyses?
- When can we use mixed methods?
- How can we design a mixed methods study?

- Objectives:

- Understand potential benefits of combining qualitative and quantitative methods
- Recognize what a mixed methods study might look like
- Be able to explore diverse methodological options for answering your next PSIA

What is mixed methods?

- Mixed methods is the methodology used for conducting research through a combination of qualitative and quantitative research methods and/or data sources
- Mixed methods research involves collecting, analyzing, and integrating (mixing) quantitative and qualitative data to answer a common research question
- It is based on the premise that qualitative and quantitative methods and data – when used in combination – can provide a better understanding of a given research question than either of the two approaches on their own

Common characteristics of qualitative & quantitative research

○ Quantitative research

- Experimental and controlled design
- Test theories with deductive reasoning
- Use numerical data and standardized measures
- Collect data through standardized instruments, close-ended questions, such as surveys
- Use statistical tools
- Use probabilistic, random sampling and controlled design
- Focus on generalizability, replicability, control, lack of bias

○ Qualitative research

- Naturalistic and flexible design
- Use observation to guide inductive reasoning
- Use non-numerical data and multiple meanings of experiences
- Collect data with less structured instruments and methods, such as in-depth interviews, focus groups, documentary analysis and participant observation
- Use text based content analysis
- Use purposeful sampling
- Focus on uniqueness, context specificity, diversity, and subjective, historically constructed meanings

Analyzing poverty with different approaches

“Rural poverty in Tanzania has been halved in the period from 1985 to 2001. At present about 38 per cent of people living in rural areas are classified as poor. This progress is reflected in the United Nations Development Programme's Human Development Index for Tanzania, which rose from 0.3 in 1991 to 0.4 in 2002.”



**Poverty is like living in jail,
living under bondage, waiting
to be free.”**

— a saying from Jamaica

**“For a poor person everything is terrible - illness, humiliation, shame.
We are cripples; we are afraid of everything; we depend on everyone.
No one needs us. We are like garbage that everyone wants to get rid
of.”**

— a blind woman from Tiraspol, Moldova

**“If you want to do something
and have no power to do it,
it is talauchi (poverty).”**

— a proverb from Nigeria

Different methods & data for different purposes

- In poverty analysis, quantitative methods might be better suited to:

- Measuring observable, standardized, comparable outcomes
- Measuring / comparing magnitude of impacts
- Maintaining participant anonymity
- Generalizing from a sample to the population

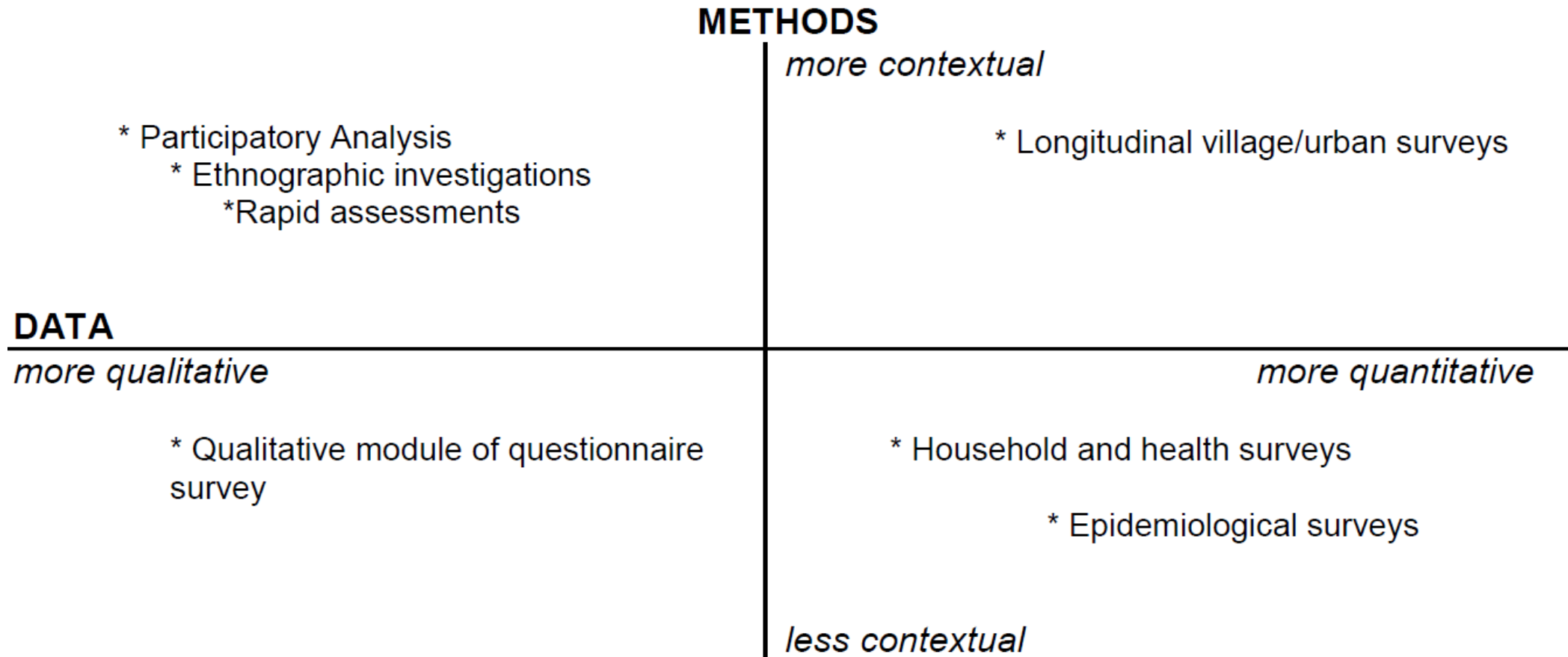
- Household and other surveys (census, LSMS, DHS)
- Opinion polls (Gallup, Barometer, World Values Survey)
- Data from official files (membership lists, gov't reports)
- Indexes from multiple sources (governance indices)

- Qualitative methods might be better suited to:

- Interpreting views, opinions and ideas underlying observed outcomes
- Understanding the context in which participants interact
- Researching vulnerable, excluded or “hard to reach” groups
- Exploring complex, dynamic, historically constructed, social processes

- Historical records, political reports, letters, legal documents
- Media (print, radio, television)
- Open-ended responses to survey questions
- Observation (ethnography)
- Interviews with key informants or focus groups

Examples you may have encountered



Source: Adapted from Hentschel (1999)

Each method has some drawbacks...

- **Quantitative**

- Does not capture some types of information
- Sampling design may exclude some groups
- Little, if any, analysis of the context
- May alienate respondents due to formal and close-ended nature of interviews
- Standardization leads to data reduction and loss of information
- Difficulty in studying underlying processes
- Delay in obtaining results

- **Qualitative**

- Can be too broad and have unclear design
- Cannot measure or compare magnitude of impacts
- Individual and group characteristics cannot be isolated or controlled during analysis
- Difficult to generalize to the population
- Multiple participant perspectives and non-standardized responses can be hard to reconcile
- Interpretations of data collector may be considered too subjective

Combining methods can yield better answers

- Combining methods can yield best of both worlds, as well as help minimize individual weaknesses of qualitative and quantitative methods

Strengths of quantitative methods

- Measurement
- Precision
- Hypothesis testing
- Statistical power and validity
- Large, representative samples



Strengths of qualitative methods

- Descriptive depth and narrative power
- Nuanced, textured analysis of complex concepts
- Contextual information and historical validity
- Institutions, mechanisms of power and politics, social interactions

- It can also lead to better research, better policy alternatives and cross-sectoral / cross-disciplinary dialogue

Four elements of mixed methods research

1. Develop an integrated methodology

- Concurrent or sequential integration
- Equal or unequal emphases

2. Collect qualitative & quantitative data

- Open-ended and closed-ended
- Semi-structured, structured and observatory

3. Integrate data & methods

- Merging
- Connecting
- Embedding

4. Use complementary and rigorous procedures for inference

- Complementary use of statistical and textual analysis so different data/methods speak to each other

Benefits of integration

- Identify relationships and outcomes through exploratory research, when there are no clear ex ante hypotheses
- Inform instrument design and sampling options
- Complement data that is unreliable, incomplete or unavailable for a specific group (e.g. groups excluded from censuses, such as the homeless)
- Improve validity of findings or explain unexpected findings → “triangulation”
- Understand experiences and processes behind measured outcomes and statistics
- Improve inference, when there are multiple interventions at play and it’s difficult to know which intervention is responsible for observed outcomes

Design options

- **Parallel “triangulation” design**

- Most basic form of integration
- Putting different data sources together at the end for validation and additional insights



These are the most common designs because of:

- Time and resource constraints
- Limited capacity of local research firms for more complex designs
- Easier to conduct independently
- High returns at little additional cost

- **Nested design**

- Basic form of integration
- Using a different method during research process, but with this method playing a smaller role than the other



- **Sequential design**

- More complex form of integration
- Sequential use of methods and data
- Can be “explanatory” or “exploratory” depending on where qualitative research falls

- **Iterative design**

- Most complex form of integration
- Involves constant interaction of qualitative and quantitative throughout research process

Parallel design: Charcoal sector PSIA in Tanzania

Qualitative:

Focus group discussions and key informant interviews conducted with 200 stakeholders from all relevant groups in Tanzania's charcoal sector



Political economy analysis of various actors likely to influence the policy design and those likely to be affected by the policy.

Identify which actors are involved, how they are related to each other, and how influential they are.

Quantitative:

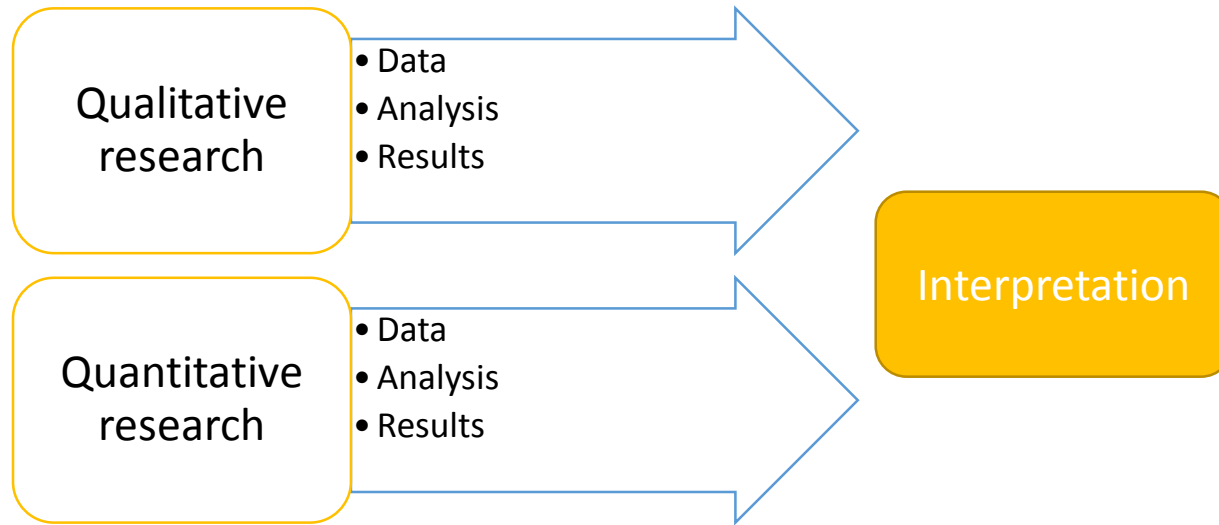
Primary data collection on current charcoal price data in Dar es Salaam and the surrounding districts



Basic household income and expenditure analysis and estimation of consumers' ability to pay

Secondary data analysis of the Household Budget Surveys (HBS) of 1992, 2001 and 2007

Parallel design



When to use this design?

- To combine the advantages of quantitative (trends, large numbers, generalization) with qualitative (detail, small numbers, in-depth)
- To validate your quantitative findings with qualitative data
- To expand quantitative findings with some open-ended qualitative data (e.g. survey with closed- and open-ended data)

- Collecting both quantitative and qualitative data
- Collecting data at the same time in the research procedure
- Analyzing the quantitative and qualitative data separately
- Comparing or combining the results of the quantitative and qualitative analysis

Nested design: Green growth PSIA in Himachal Pradesh

Macro assessment

Macro qualitative study of the social and economic trajectory of HP

What is it about community life in HP that helped the State preserve its cohesive social fabric while reaching favorable outcomes, and how has this changed with rapid economic change in recent years?

What have been the perceived social, and welfare impacts of recent reforms across the State?

What changes do local communities expect to see in the next few years, and how do they perceive these to affect the social, economic and political grammar?

Micro assessment

Household surveys

Standard socioeconomic survey

Assets, consumption, incomes, employment, education, health, demographics.

Additional modules:

Perceptions of inclusion and exclusion

Governance and access to public programs

Gender relations

Key informant surveys

Community survey on demographics, infrastructure, public programs, governance, social groups

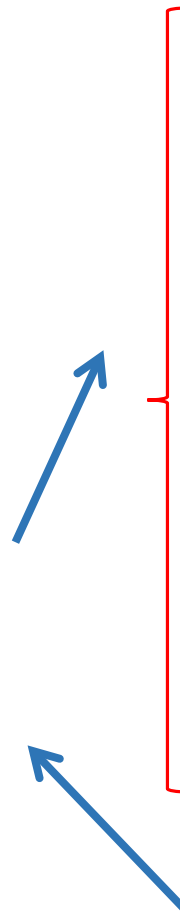
Qualitative interviews

Open-ended interviews with community members from different social groups, about perceptions of economic change and future aspirations

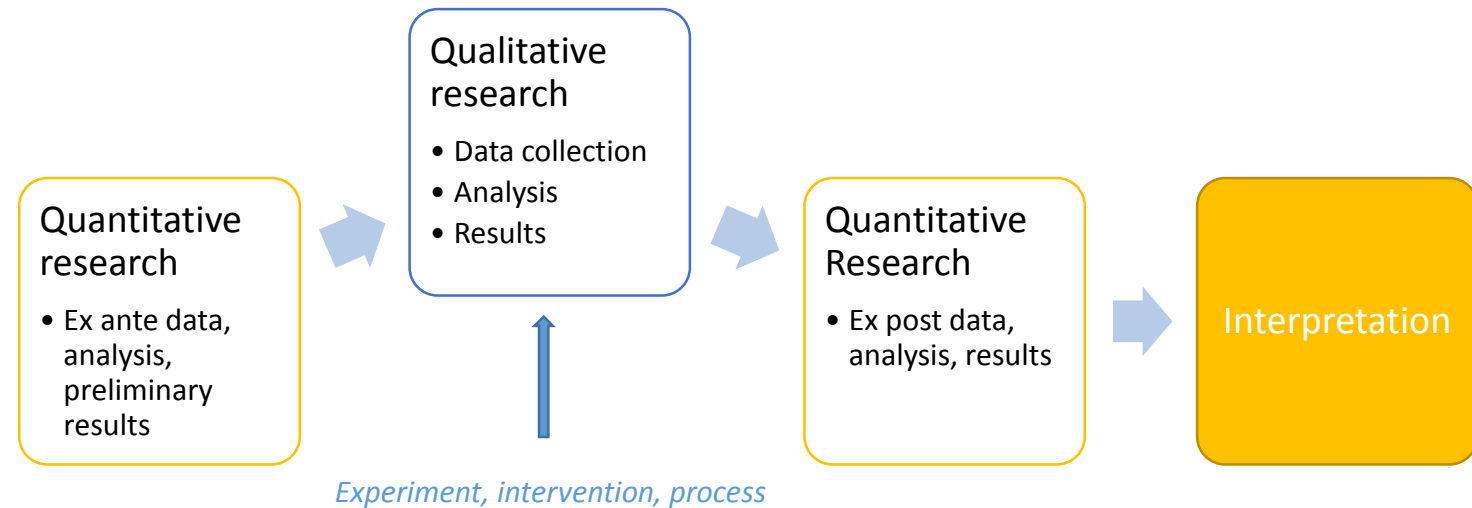
Secondary research

Analysis of Indian National Sample Survey

Literature review on HP



Nested design



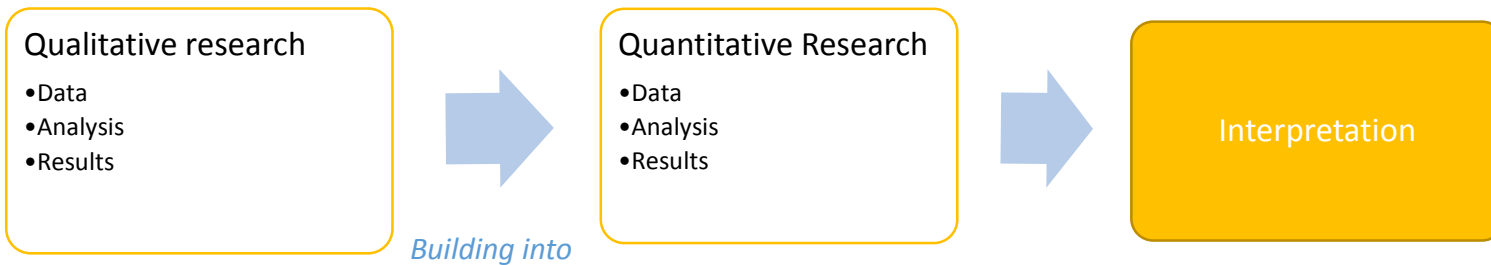
When to use this design?

- No time or resources to commit to extensive quantitative and qualitative data collection
- To study the process of an experiment as well as the outcomes
- To examine different levels of analysis

- Collecting both types of data at the same time
- Having one form of data play a smaller role in the study
- Using one form of data to answer one question; the other form another question (e.g. studying different levels of analysis)

Sequential design: Afghanistan mining PSIA?

Sequential design – exploratory

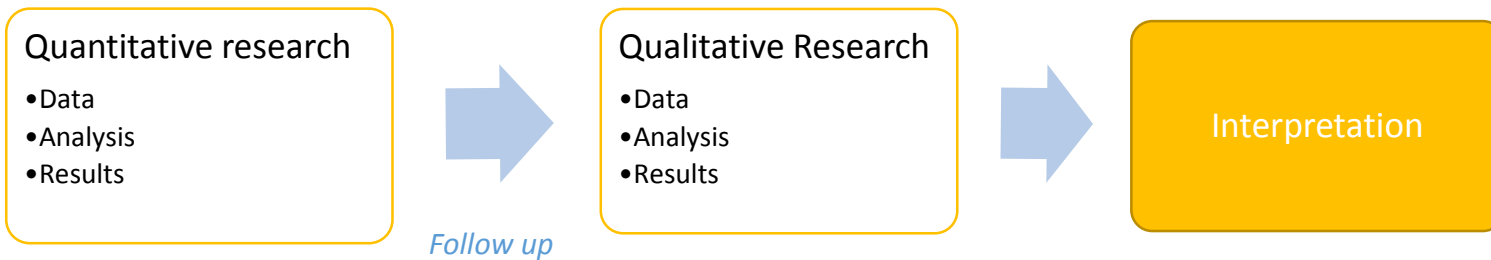


When to use this design?

- To develop an instrument when one is not available (first explore, then develop instrument)
- To develop a classification or typology for testing
- To identify the most important variables to study quantitatively when these variable are not known

- Viewing the study as a two-phase project
- Qualitative data collection precedes quantitative data collection
- Typically, greater emphasis is placed on the qualitative data in the study

Sequential design – explanatory

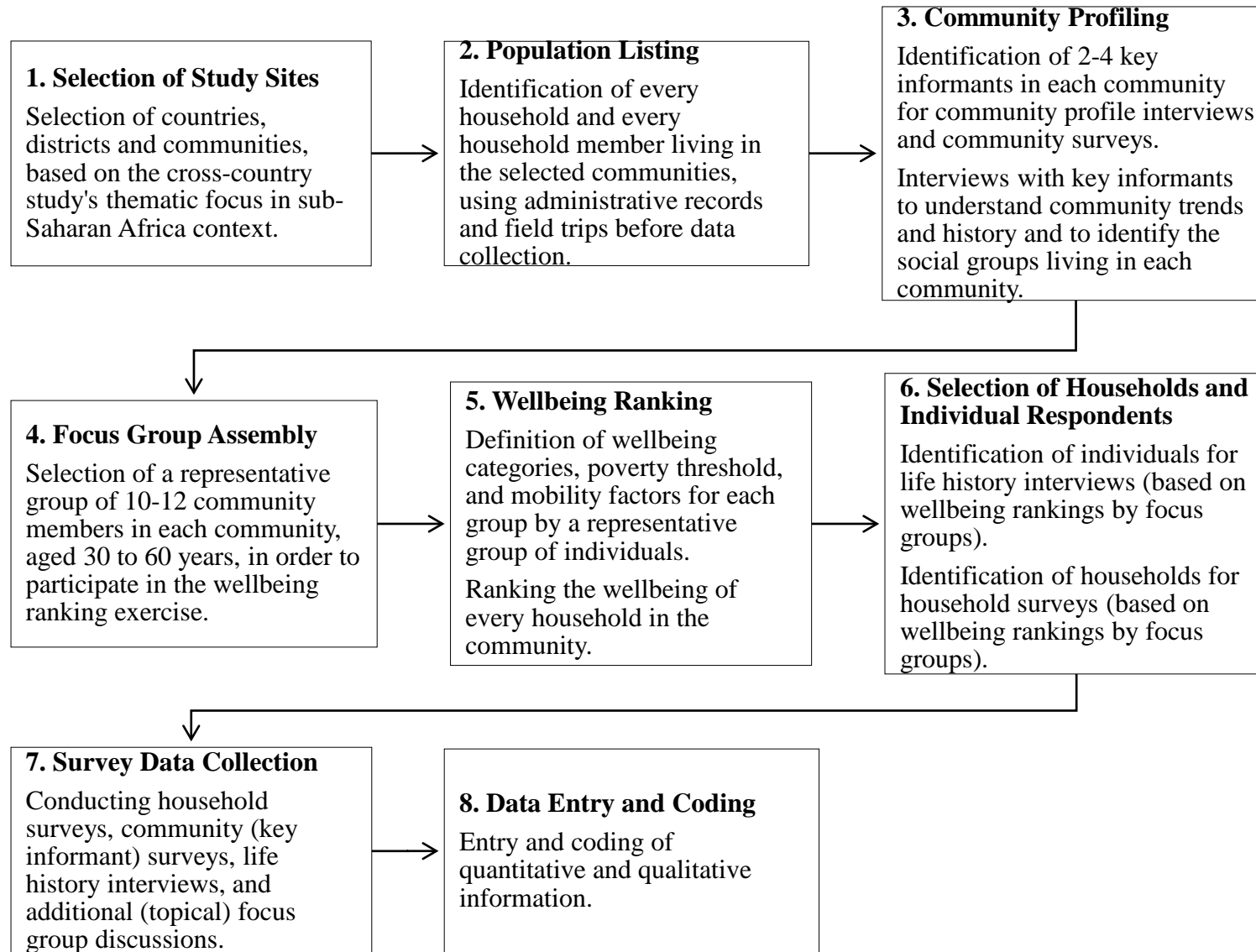


When to use this design?

- To explain the quantitative results in more depth with qualitative data (e.g., statistical differences among groups, individuals who scored at extreme levels)
- To identify appropriate participants to study in more depth qualitatively

- Viewing the study as a two-phase project
- Collecting quantitative data first followed by collecting qualitative data second
- Typically, a greater emphasis is placed on the quantitative data in the study

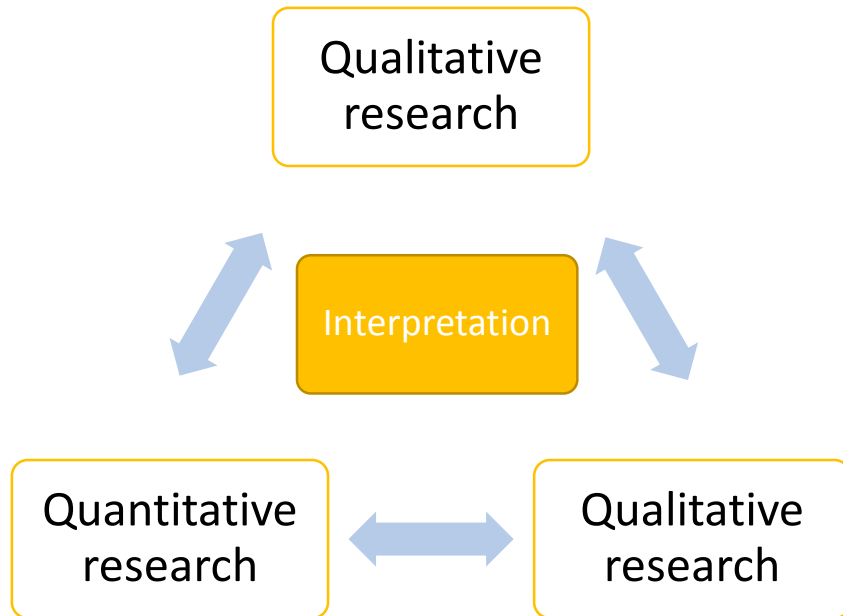
Iterative design: Moving out of poverty study



Study design:

- Define poverty in qualitative terms in each community (FGDs)
- Quantify poverty definitions through wellbeing rankings
- Using wellbeing rankings, purposively select poor and non-poor households for close-ended surveys and open-ended interviews
- Ultimate objective is to measure and explore processes of moving into or out of poverty
- Questions are inductively refined throughout fieldwork
- Each piece of data and instrument speaks to another one

Iterative design



When to use this design?

- To combine all the advantages of mixing discussed earlier, through an iterative process of mixing and refinement
 - Validation
 - Instrument refinement
 - Developing a typology for testing
 - Identifying variables
 - Explaining results in more depth
 - Identifying participants to study in greater depth

- Iterative approach to using one method to inform another, then back to the first, etc.
- Keeping multiple methods interactive throughout the research process to update researchers' priors continuously
- Ongoing creative tension between methods helps ensure originality, robustness and relevance of results

Additional considerations

- Mixed methods research might have broader technical skills requirements
- Design and execution may require additional resources
- May require iterative learning, self-critique, and cross-checking within teams and with other interested parties
- There might be local capacity constraints for carrying out complex mixed methods designs

Concluding remarks

- Start with research questions and choose the most appropriate design for your own needs
- Different methods and data are complementary, not mutually exclusive
- Consider integration earlier in the design process rather than later
- Mixing methods and data can provide a fuller understanding of a problem and help design better policy responses